

Milk and Lower Marias River Watersheds: Assessing and Maintaining the Health of Wetland Communities

Prepared for:

The Bureau of Reclamation

By:

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INTRODUCTION

Historically, wetlands have been considered unproductive lands with little value to society (Mitsch and Gosselink 1993). Consequently, wetlands have long been drained, filled, or otherwise manipulated to produce goods and services valued by society. This has resulted in significant wetland destruction and degradation in the United States. Dahl (1990) estimated that over half of the wetlands acres in the conterminous United States have been lost since 1780, and that approximately 25% of Montana's wetland acres have been lost in the same period.

In the last 20 years, as awareness of the cumulative loss and damage to wetlands in the United States has grown, so too has society's appreciation of the ecological importance and economic benefits of wetlands. This recognition has increased the regulatory oversight on wetland-disturbing activities and expanded opportunities for wetland conservation.

In the semi-arid northern Great Plains, where water demand may exceed supply, water resource management has a direct bearing on the condition and persistence of remaining wetlands. The Bureau of Reclamation is one of the main government agencies charged with managing water flows and availability in the region. The Bureau is involved with settling a dispute between Native American tribes and the government over availability of water in the Milk River drainage. Settlement of these water rights may change water diversions and distributions in the area, consequently affecting the functional and ecological integrity of wetlands and riparian areas.

The purpose of this study is to provide the Bureau information on riparian and wetland resources and to document remaining high

quality wetlands within the study area. Understanding the diversity, location, and condition of wetland and riparian areas will help to minimize potential impacts to these resources.

STUDY AREA

Physical Setting

The study area is in north central Montana in Liberty, Choteau, Hill, Blaine, Phillips, and Valley Counties. It is within the Montana Glaciated Plains subsection of the Great Plains ecological unit and includes the lower Milk and Marias River watersheds below Fresno and Tiber Dams, respectively (Figure 1). Milk River tributaries, such as Battle, Assiniboine, and Whitewater Creeks, are within the study location. This region is characterized by plains, terraces, and floodplains that formed in glacial till, gravel deposits, and alluvium over clay shale, sandstone, and siltstone (Nesser et al. 1997).

The prairie landscape of the study area has modest vertical relief. Elevations along the Milk River range from 600 m at Glasgow to 750 m near Fresno Dam. Elevations along the Marias River range from 750 m at its confluence with the Missouri River to 900 m at Tiber Dam. The gently rolling nature of today's landscape was created by episodes of past glaciation when this area was scoured by the Keewatin ice sheet. Glacial till, outwash, and drift up to 100 feet thick mantle the rolling terrain (Nesser et al. 1997). In areas lacking surface drainage, small wetlands are sporadically distributed and may have formed in partially filled kettle holes created when stranded ice blocks melted following glaciation. These small wetlands, termed prairie potholes, are especially prevalent in the northern portion of the study area.